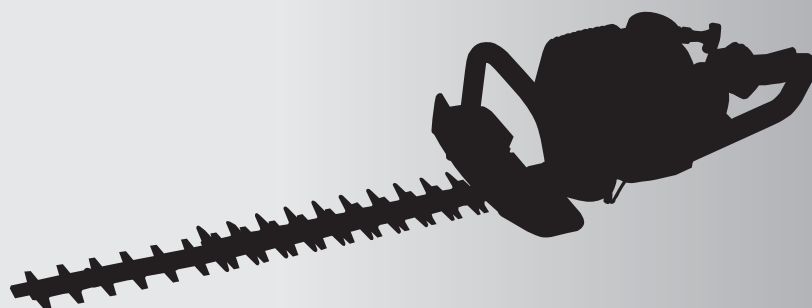





## OWNER'S MANUAL

## HEDGE TRIMMER




# HT2310 CHT2310

### **WARNING**


 Before using our products, please read this manual carefully to understand the proper use of your unit.


# EXPLANATION OF SYMBOLS AND SAFETY WARNINGS

## HT2310




**WARNING!!!**  
**RISK OF DAMAGING HEARING**  
Wear head, eye and ear protection.







## CHT2310



**WARNING!!!**  
**RISK OF DAMAGING HEARING**  
Wear head, eye and ear protection.





MODEL		SOUND LEVEL		VIBRATION LEVEL	
		ISO 11094	prEN774	ISO 8662	
		L <sub>wA</sub> (guaranteed)	L <sub>pAav</sub>	a <sub>hv,eq</sub>	A(8)
HTZ2310	22.5 cm <sup>3</sup>	108 dB(A)	97 dB(A)	9.8 m/s <sup>2</sup>	6.5 m/s <sup>2</sup>
CHTZ2310	22.5 cm <sup>3</sup>	106 dB(A)	95 dB(A)	12.3 m/s <sup>2</sup>	8.1 m/s <sup>2</sup>

**APPROVAL NUMBER OF CE EXHAUST EMISSION REGULATION**  
**e13\*97/68SH2G3\*2002/88\*0104\*04**

## EC DECLARATION OF CONFORMITY

We, **ZENOAH CO., LTD.**

**1-9, Minamidai, Kawagoe, Saitama, Japan**

declare in sole responsibility that the following products referred to in this declaration conform with

**DIRECTIVE 89/336/EEC, 98/37/EC**

**2000/14/EC Internal control production.**

The products referred to are:

**DESIGNATION : HEDGE TRIMMER**

**MODELS : HT2310 CHT2310**

**SERIAL NUMBERS : 70300001 and up**

The company named above will keep on file the following technical documentation for any inspection purpose.

- Operation instructions
- Plans and Drawings
- Description of measures designed to ensure conformity
- Other technical documentation : [Specification sheet](#)  
[Inspection standard](#)

**Saitama, Japan**

**1st March 2007**



Masahiko GOUDA  
General Manager, Quality Assurance Department

## ▲ SAFETY FIRST

Instructions contained in warnings within this manual marked with a ▲ symbol concern critical points which must be taken into consideration to prevent possible serious bodily injury, and for this reason you are requested to read all such instructions carefully and follow them without fail.

## WARNINGS IN THE MANUAL

### ▲ WARNING

This mark indicates instructions, which must be followed in order to prevent accidents, which could lead to serious bodily injury or death.

### ❗ IMPORTANT

This mark indicates instructions, which must be followed, or it leads to mechanical failure, breakdown, or damage.

### 📖 NOTE

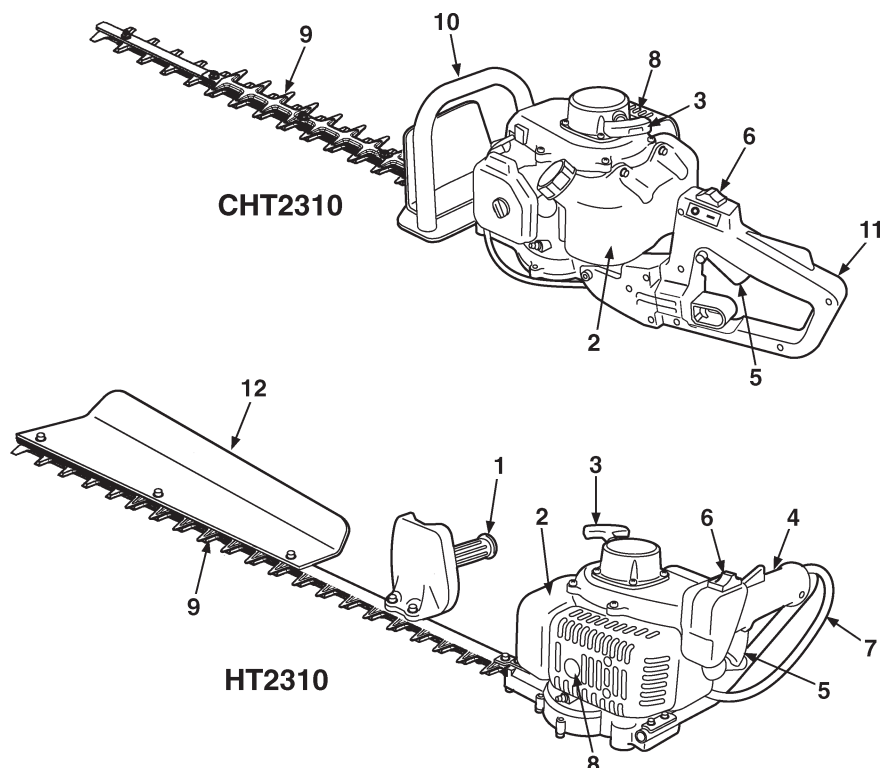
This mark indicates hints or directions useful in the use of the product.

## Contents

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# 1. Parts location

1. Right handle
2. Fuel tank
3. Starter
4. Left handle
5. Throttle lever
6. Ignition switch
7. Throttle Cable
8. Muffler
9. Blade
10. Front handle
11. Rear handle
12. Plate receive



## 2. Specification

Model ..... HT2310 / CHT2310

Type ..... double-action type

HT2310 / CHT2310 ..... Single blade / Double blade

Blade length (from the tip of Gear Case)

HT2310 / CHT2310 ..... 750 / 600 mm

Engine

Model ..... Zenoah G23LH

Displacement ..... 22.5 cm<sup>3</sup>

Carburetor ..... Diaphragm type

Ignition system ..... I.C.controlled flywheel magneto

Spark plug ..... Champion RCJ6Y or NGK BPMR7A

Fuel ..... Mixture (Gasoline 50 : Oil 1)

..... (when using ZENOAH genuine oil)

Fuel tank capacity ..... 0.6 L

Starter ..... Recoil starter

Clutch ..... Centrifugal type

Reduction ratio

HT2310 / CHT2310 ..... 4.14 / 4.14

Dry weight

HT2310 / CHT2310 ..... 5.3 / 5.3 kg

Specifications are subject to change without notice.

### 3. Warning labels on the machine



**Read owner's manual before operating this machine.**



**Wear head, eye and ear protection.**



**Warning / Attention**

**Keep all children, bystanders and helpers 15 meters away from the machine.**



If warning label peels off or becomes soiled and impossible to read, you should contact the dealer from which you purchased the product to order new labels and affix them in the required location(s).



**Never modify your machine.**  
**We won't warrant the machine, if you use the remodeled hedge trimmer or if you don't observe the proper usage written in the manual.**

### 4. Symbols on the machine

For safe operation and maintenance, symbols are carved in relief on the machine. According to these indications, please be careful not to make a mistake.



The port to refuel the "MIX GASOLINE"  
**Position:** FUEL TANK CAP



The direction to close the choke  
**Position:** AIR CLEANER COVER



The direction to open the choke  
**Position:** AIR CLEANER COVER

## ▲ 5. For safe operation

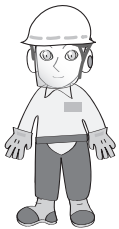


1. THIS MACHINE CAN CAUSE SERIOUS INJURIES. Read this manual carefully until you completely understand and follow all safety and operating instructions. Also, know how to stop the machine quickly in an emergency.
2. Keep this manual handy so that you may refer to it later whenever any questions arise. Also note, if you have any questions which cannot be answered herein, contact the dealer from whom you purchased the product.
3. Always be sure to include this manual when selling, lending, or otherwise transferring the ownership of this product.
4. Never allow children or anyone unable to fully understand the directions given in the manual to use the machine.



### WORKING CONDITION

1. When using the product, you should wear proper clothing and protective equipment.



- (1) Helmet
- (2) Ear protectors
- (3) Protection goggles or face protector
- (4) Thick work gloves
- (5) Non-slip-sole work boots

2. And you should carry with you.
  - (1) Attached tools
  - (2) Properly reserved fuel
  - (3) Spare blade
  - (4) Things to notify your working area (rope, warning signs)
  - (5) Whistle (for collaboration or emergency)
  - (6) Hatchet or saw (for removal of obstacles)



3. Do not wear loose clothing, jewelry, short trousers, sandals, or go barefoot. Do not wear anything which might be caught by a moving part of the unit. Secure hair so it is above shoulder length.



### WORKING CIRCUMSTANCE

1. Never start the engine inside a closed room or building. Exhaust gases contain dangerous carbon monoxide.



2. Never use the product,
  - a. when the ground is slippery or when you can't maintain a steady posture.
  - b. At night, at times of heavy fog, or at any other times when your field of vision might be limited and it would be difficult to gain a clear view of the working area.
  - c. During rain storms, during lightning storms, at times of strong or gale-force winds, or at any other times when weather conditions might make it unsafe to use the product.

### WORKING PLAN

1. You should never use the product when under the influence of alcohol, when suffering from exhaustion or lack of sleep, when suffering from drowsiness as a result of having taken cold medicine or at any other time when a possibility exists that your judgment might be impaired or that you might not be able to operate the product properly and in a safe manner.
2. When planning your work schedule, allow plenty of time to rest. Limit the amount of time over which the product is to be used continuously to somewhere around 30 ~ 40 minutes per session, and take 10 ~ 20 minutes of rest between work sessions. Also try to keep the total amount of work performed in a single day under 2 hours or less.



### ▲ WARNING

1. If you don't observe the working time, or working manner (See "USING THE PRODUCT"), Repetitive Stress Injury (RSI) could occur.  
If you feel discomfort, redness and swelling of your fingers or any other part of your body, see a doctor before getting worse.
2. To avoid noise complaints, in general, operate product between 8 a.m. and 5 p.m. on weekdays and 9 a.m. to 5 p.m. on weekends.



## ⚠ 5. For safe operation

### 📖 NOTE

Check and follow the local regulations as to sound level and hours of operations for the product.

### BEFORE STARTING THE ENGINE

1. The area within a perimeter of 15 m of the person using the product should be considered a hazardous area into which no one should enter. If necessary, yellow warning rope, warning signs should be placed around the perimeter of the area. When work is to be performed simultaneously by two or more persons, care should also be taken to constantly look around or otherwise check for the presence and locations of other people working so as to maintain a distance between each person sufficient to ensure safety.
2. Check the condition of working area to avoid any accident by hitting hidden obstacles such as stumps, stones, cans, or broken glass.



### ❗ IMPORTANT

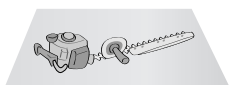
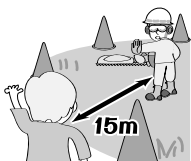
Remove any obstacle before beginning work.

3. Inspect the entire unit for loose fasteners and fuel leakage. Make sure that the cutting attachment is properly installed and securely fastened.



### STARTING THE ENGINE

1. Keep bystanders, especially children, and animals at least 15 m away from the operating point. If you are approached, immediately stop the engine.
2. The product is equipped with a centrifugal clutch mechanism, so the cutting attachment begins to move as soon as the engine is started by putting the throttle into the start position. When starting the engine, place the product onto the ground in a flat clear area and hold it firmly in place so as to ensure that neither the cutting part nor the throttle come into contact with any obstacle when the engine starts.



### ⚠ WARNING

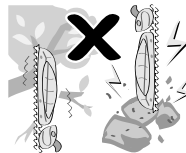
**Never place the throttle into the high-speed position when starting the engine.**

3. After starting the engine, check to make sure that the cutting attachment stops moving when the throttle is moved fully back to its original position. If it continues to move even after the throttle has been moved fully back, turn off the engine and take the unit to your authorized ZENOAH servicing dealer for repair.

### USING THE PRODUCT

#### ❗ IMPORTANT

Cut only materials recommended by the manufacturer. And use only for tasks explained in the manual.



1. Grip the handles firmly with both hands using your whole hand. Place your feet slightly apart (slightly further apart than the width of your shoulders) so that your weight is distributed evenly across both legs, and always be sure to maintain a steady, even posture while working.
2. Keep cutting attachment below waist level.
3. Maintain the speed of the engine at the level required to perform cutting work, and never raise the speed of the engine above the level necessary.
4. If the unit starts to shake or vibrate, turn off the engine and check the whole unit. Do not use it until the trouble has been properly corrected.
5. Keep all parts of your body away from moving cutting attachment and hot surfaces.
6. Never touch the muffler, spark plug, or other metallic parts of the engine while the engine is in operation or immediately after shutting down the engine. Doing so could result in serious burns or electrical shock.



## ▲ 5. For safe operation

7. While operating the machine be always sure of a safe and secure operating position especially when using steps or a ladder.

### • IF SOMEONE COMES

1. Guard against hazardous situations at all times. Warn adults to keep pets and children away from the area. Be careful if you are approached. Injury may result from flying debris.
2. If someone calls out or otherwise interrupts you while working, always be sure to turn off the engine before turning around.



### MAINTENANCE

1. In order to maintain your product in proper working order, perform the maintenance and checking operations described in the manual at regular intervals.
2. Always be sure to turn off the engine before performing any maintenance, checking procedures or working on the machine.

### ▲ WARNING

**The metallic parts reach high temperatures immediately after stopping the engine.**



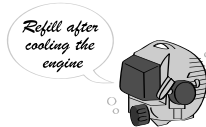
3. When replacing the cutting attachment or any other part, or when replacing the oil or any lubricant, always be sure to **use only ZENOAH products or products which have been certified by ZENOAH for use with the ZENOAH product.**
4. In the event that any part must be replaced or any maintenance or repair work not described in this manual must be performed, please contact a representative from the store nearest ZENOAH authorized servicing dealer for assistance.
5. Do not use any accessory or attachment other than those bearing the ZENOAH mark and recommended for the unit.



6. Under no circumstances should you ever take apart the product or alter it in any way. Doing so might result in the product becoming damaged during operation or the product becoming unable to operate properly.

### HANDLING FUEL

1. The engine of the ZENOAH product is designed to run on a mixed fuel, which contains highly flammable gasoline. Never store cans of fuel or refill the tank of the unit in any place where there is a boiler, stove, wood fire, electrical sparks, welding sparks, or any other source of heat or fire which might ignite the fuel.
2. Never smoke while operating the unit or refilling its fuel tank.
3. When refilling the tank, always turn off the engine and allow it to cool down. Take a careful look around to make sure that there are no sparks or open flames anywhere nearby before refueling.
4. Wipe spilled fuel completely using a dry rag if any fuel spillage occurs during refueling.
5. After refueling, screw the fuel cap back tightly onto the fuel tank and then carry the unit to a spot 3 m or more away from where it was refueled before turning on the engine.
6. Do not inhale fuel fumes as they are toxic.



### TRANSPORTATION

1. When hand-carrying the product, cover over the cutting part if necessary, lift up the product and carry it paying attention to the blade.
2. Never transport the product over rough roads over long distances by vehicle without removing all fuel from the fuel tank. If doing so, fuel might leak from the tank during transport.

## 6. Fuel

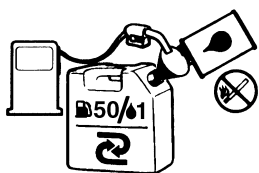
### ■ FUEL

#### ⚠ WARNING

- Gasoline is very flammable. Avoid smoking or bringing any flame or sparks near fuel. Make sure to stop the engine and allow it cool before refueling the unit. Select outdoor bare ground for fueling and move at least 3 m (10 ft) away from the fueling point before starting the engine.



- The Zenoah engines are lubricated by oil specially formulated for air-cooled 2-cycle gasoline engine use. If Zenoah oil is not available, use an anti-oxidant added quality oil expressly labeled for air-cooled 2-cycle engine use (JASO FC GRADE OIL or ISO EGC GRADE).
- Do not use BIA or TCW (2-stroke water-cooling type) mixed oil.



### ■ RECOMMENDED MIXING RATIO

#### GASOLINE 50 : OIL 1

(when using ZENOAH genuine oil)

- Exhaust emission are controlled by the fundamental engine parameters and components (eq., carburation, ignition timing and port timing) without addition of any major hardware or the introduction of an inert material during combustion.
- These engines are certified to operate on unleaded gasoline.
- Make sure to use gasoline with a minimum octane number of 89RON (USA/Canada: 87AL).
- If you use a gasoline of a lower octane value than prescribed, there is a danger that the engine temperature may rise and an engine problem such as piston seizing may consequently occur.
- Unleaded gasoline is recommended to reduce the contamination of the air for the sake of your health and the environment.
- Poor quality gasolines or oils may damage sealing rings, fuel lines or fuel tank of the engine.

### ■ HOW TO MIX FUEL

#### ⚠ WARNING

- Pay attention to agitation.
- Measure out the quantities of gasoline and oil to be mixed.
  - Put some of the gasoline into a clean, approved fuel container.
  - Pour in all of the oil and agitate well.
  - Pour in the rest of gasoline and agitate again for at least one minute. As some oils may be difficult to

agitate depending on oil ingredients, sufficient agitation is necessary for the engine to last long. Be careful that, if the agitation is insufficient, there is an increased danger of early piston seizing due to abnormally lean mixture.

- Put a clear indication on the outside of the container to avoid mixing up with gasoline or other containers.
- Indicate the contents on outside of container for easy identification.

### ■ FUELING THE UNIT

- Untwist and remove the fuel cap. Rest the cap on a dustless place.
- Put fuel into the fuel tank to 80% of the full capacity.
- Fasten the fuel cap securely and wipe up any fuel spillage around the unit.

#### ⚠ WARNING

- Select bare ground for fueling.
- Move at least 10 feet (3 meters) away from the fueling point before starting the engine.
- Stop the engine before refueling the unit. At that time, be sure to sufficiently agitate the mixed gasoline in the container.

### ■ FOR YOUR ENGINE LIFE, AVOID:

- FUEL WITH NO OIL (RAW GASOLINE)** – It will cause severe damage to the internal engine parts very quickly.
- GASOHOL** – It can cause deterioration of rubber and/or plastic parts and disruption of engine lubrication.
- OIL FOR 4-CYCLE ENGINE USE** – It can cause spark plug fouling, exhaust port blocking, or piston ring sticking.
- Mixed fuels which have been left unused for a period of one month or more** may clog the carburetor and result in the engine failing to operate properly.
- In the case of storing the product for a long period of time, clean the fuel tank after rendering it empty. Next, activate the engine and empty the carburetor of the composite fuel.
- In the case of scrapping the used mixed oil container, scrap it only at an authorized repository site.

#### 📖 NOTE

- As for details of quality assurance, read the description in the section Limited Warranty carefully. Moreover, normal wear and change in product with no functional influence are not covered by the warranty. Also, be careful that, if the usage in the instruction manual is not observed as to the mixed gasoline, etc. described therein, it may not be covered by the warranty.

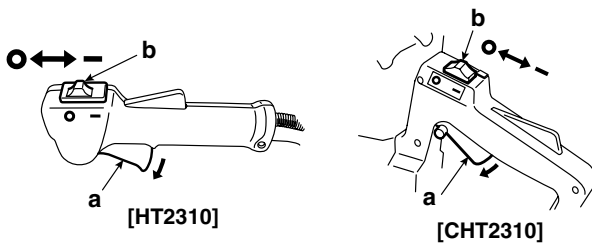
# 7. Operation

## STARTING ENGINE

### ⚠ WARNING

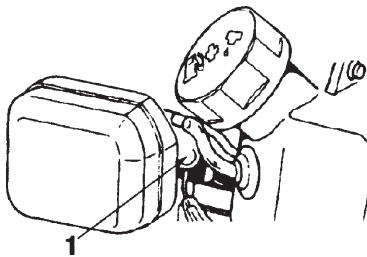
**The cutting head will start moving upon the engine starts.**

1. Release the throttle lever and make sure it is fully back.
2. Set the ignition switch to the "I" position.



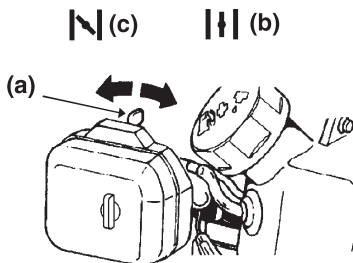
(a) Throttle lever (b) Ignition switch

3. Push the primer pump several times until overflow fuel flows out in the clear tube.



(1) Primer pump

4. Move the choke lever to the closed position.



(a) Choke lever (b) Open (c) Close

5. Place the unit on a flat, firm place. Keep the cutting head clear of everything around it.
6. While holding the unit firmly, pull out the starter rope quickly until engine fires.



(HT2310)

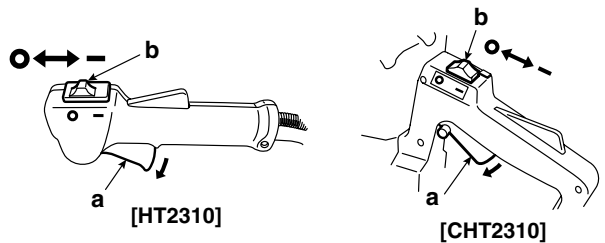


(CHT2310)

7. After the engine has started, allow the engine to warm up. Pull the throttle lever.

## STOPPING ENGINE

1. Release the throttle lever and run the engine for half a minute.
2. Shift the ignition switch to the STOP position.



### NOTE

If the engine doesn't stop after stopping the switch, close the choke so that engine will stop after a little.

# 7. Operation

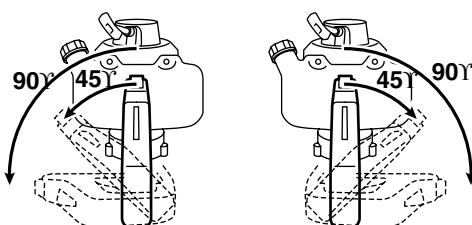
## CUTTING WORK

### ⚠ WARNING

- **Weather conditions and altitude may effect carburation.**
- **Do not allow anyone to stay close to the hedge-trimmer while working or while adjusting the carburetor.**

## HOW TO USE : HANDLE (CHT2310)

- To reduce fatigue when trimming hedges, the handle can be swivelled through 45° or 90° to the left or right.

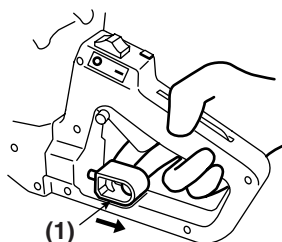


- **Do not press the throttle during this operation!**

### Proceed as follows:

1. Free the handle by pulling the locking lever.
2. Turn the handle until the locking lever clicks into place.
3. When the handle is locked in its new position, you can apply the throttle again.

(1) locking lever



- You can swivel the handle even with the engine idling because the hedge-trimmer is equipped with a blade brake that maintains the blades at a standstill.

- Use only as much throttle as is needed to do the job. Excessive engine speed is unnecessary.
- Avoid cutting thick branches, for which will damage the blades and shorten the life of drive systems.
- Tilting the trimmer 5 to 10° to the cutting object will make the job easy and bring a good result.
- Always keep your body to the carburetor side of your trimmer, never on the muffler side.
- When a new machine is first operated, in the first few minutes grease may come out of the gear case. But, since this is excess grease, there is no cause for alarm. Just wipe it off with the engine stopped for next use.
- Always remember that the TIP of the line does cutting. You will achieve better results by not crowding the line into the cutting area. Allow the unit to trim at its own pace.



## 8. Maintenance

	System/components	Procedure	Before use	Every 25 hours after	Every 50 hours after	Every 100 hours after	Note
ENGINE	fuel leaks, fuel spillage	wipe out	✓				
	fuel tank, air filter, fuel filter	inspect/clean	✓	✓			replace, if necessary
	idle adjusting screw	see adjusting idling speed	✓				replace carburetor if necessary
	spark plug	clean and readjust plug gap			✓		GAP: 0.6 ~ 0.7 mm replace, if necessary
	cylinder fins, intake air cooling vent	clean		✓			
	muffler, spark arrester, cylinder exhaust port	clean			✓		
SHAFT	throttle lever, ignition switch	check operation	✓				
	cutting parts	replace if something's wrong	✓				
	gear case	grease		✓			
	screws/nuts/bolts	tighten/replace	✓			✓	not adjusting screws
	debris guard	make sure to attach	✓				

### ⚠ WARNING

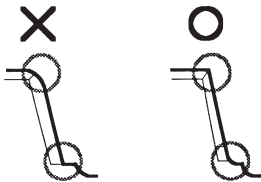
- **Make sure that the engine has stopped and is cool before performing any service to the machine. Contact with moving cutting head or hot muffler may result in a personal injury.**

### BLADE

- Check the blade and the fasteners for looseness, cracking, or bending.
- Check the cutting edges and reform with a flat file.

Point :

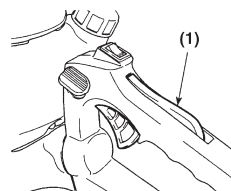
1. Keep the end corner sharp.
2. Round the root of the edge.
3. Do not use water when using a grinder.



### SAFETY LOCK

#### ⚠ WARNING

- **Stop operation when the safety lock is defective.**
- Safety lock is the device not to accelerate the throttle lever without intention. While pushing the safety lock, you can accelerate the throttle lever.



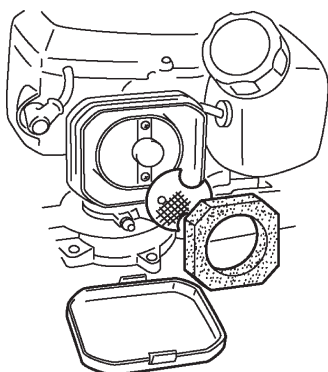
(1) Safety lock

1. Check if the throttle lever does not move when you do not push the safety lock.
  2. Check if the throttle lever moves when you grasp or release it while pushing the safety lock.
  3. Check if the safety lock returns to its original position when you release your hand from safety lock.
- If you find any defects at the checks above, contact your nearest servicing dealer for repair.

## 8. Maintenance

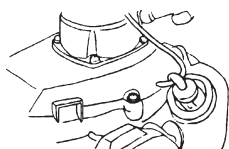
### AIR FILTER

- The air filter, if clogged, will reduce the engine performance. Check and clean the filter element in warm, soapy water as required. Dry completely before installing. If the element is broken or shrunk, replace with a new one.



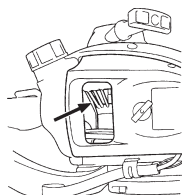
### FUEL FILTER

- When the engine runs short of fuel supply, check the fuel cap and the fuel filter for blockage.



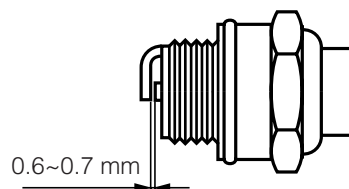
### WAY OF THE COOLING AIR

- This engine is air-cooled. Dust clogging between the inlet port of the cooling air and cylinder fins will cause overheating of the engine. Periodically check and clean the cylinder fins after removing the air cleaner and the cylinder cover.



### SPARK PLUG

- Starting failure and misfiring are often caused by a fouled spark plug. Clean the spark plug and check that the plug gap is in the correct range. For a replacement plug, use the correct type specified by ZENOAH.



- REPLACEMENT PLUG IS A CHAMPION RCJ6Y or NGK BPMR7A.**

#### ❗ IMPORTANT

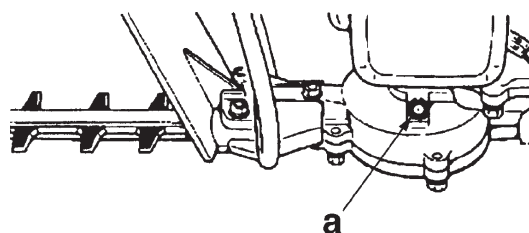
- Note that using any spark plug other than those designated may result in the engine failing to operate properly or in the engine becoming overheated and damaged.
- To install the spark plug, first turn the plug until it is finger tight, then tighten it a quarter turn more with a socket wrench.

TIGHTENING TORQUE: 14.7–21.5 N·m

### GEAR CASE

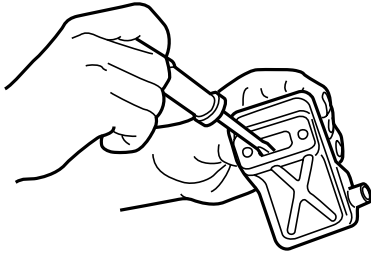
- Supply multi-purpose grease at every 25 hours of use.

- Use a grease pump.
- Feed grease until it comes out of the base of blades(a).



## 8. Maintenance

### PROCEDURES TO BE PERFORMED AFTER EVERY 100 HOURS OF USE



1. Remove the muffler, insert a screwdriver into the vent, and wipe away any carbon buildup. Wipe away any carbon buildup on the muffler exhaust vent and cylinder exhaust port at the same time.
2. Tighten all screws, bolts, and fittings.
3. Check to see if any oil or grease has worked its way in between the clutch lining and drum, and if it has, wipe it away using oil-free, lead-free gasoline.

## 9. Storage

1. Oil the blade to prevent rust.
2. Empty the fuel tank and put the cap back on.
3. Remove the spark plug, pour a small amount of oil into the cylinder.
4. Rotate the crankshaft several times using the starting rope in order to distribute the oil. Put the spark plug back in.
5. Wrap the engine with a plastic sheet.
6. Store the trimmer in a dry place, preferably not in direct contact with the floor and away from heat sources.

## 10. Disposal

When disposing your machine, fuel or oil for the machine, be sure to allow your local regulations.

# 11. Troubleshooting guide

## Case 1. Starting failure

CHECK	PROBABLE CAUSES	ACTION
fuel tank	→ incorrect fuel	→ drain it and use correct fuel
fuel filter	→ fuel filter is clogged	→ clean
carburetor adjustment screw	→ out of normal range	→ adjust to normal range
sparkign (no spark)	→ spark plug is fouled/wet → plug gap is incorrect	→ clean/dry → correct (GAP: 0.6 ~ 0.7 mm)
spark plug	→ disconnected	→ retighten

## Case 2. Engine starts but does not keep running/hard re-starting

CHECK	PROBABLE CAUSES	ACTION
fuel tank	→ incorrect fuel or staled fuel	→ drain it and use correct fuel
carburetor adjustment screw	→ out of normal range	→ adjust to normal range
muffler, cylinder (exhaust port)	→ carbon is built-up	→ wipe away
air cleaner	→ clogged with dust	→ wash
cylinder fin, fan cover	→ clogged with dust	→ clean

When your unit seems to need further service, please consult with our ZENOAH service shop in your area.

## Limited warranty

Should any failure occur on the product under normal operating conditions within the applicable warranty period, the failed part will be replaced or repaired free of charge by a ZENOAH authorized dealer.

**WARRANTY PERIOD:** 1 year (6 months if used professionally, and 30 days if used for rental purpose) from the date of initial purchase.

THE PURCHASER SHALL BEAR COSTS OF TRANSPORTING THE UNIT TO AND FROM THE ZENOAH DEALER.

THE PURCHASER SHALL NOT BE CHARGED FOR DIAGNOSTIC LABOR WHICH LEADS TO THE DETERMINATION THAT A WARRANTED PART IS DEFECTIVE, IF THE DIAGNOSTIC WORK IS PERFORMED AT THE ZENOAH DEALER.

THE PURCHASER OR OWNER IS RESPONSIBLE FOR THE PERFORMANCE OF THE REQUIRED MAINTENANCE AS DEFINED BY THE MANUFACTURER IN THE OWNER/OPERATOR MANUAL.

ANY WARRANTED PART WHICH IS NOT SCHEDULED FOR REPLACEMENT AS REQUIRED MAINTENANCE, OR WHICH IS SCHEDULED ONLY FOR REGULAR INSPECTION TO THE EFFECT OF REPAIR OR "REPLACE AS NECESSARY" SHALL BE WARRANTED FOR THE WARRANTY PERIOD. ANY WARRANTED PART WHICH IS SCHEDULED FOR REPLACEMENT AS REQUIRED MAINTENANCE SHALL BE WARRANTED FOR THE PERIOD OF TIME UP TO THE FIRST SCHEDULED REPLACEMENT POINT FOR THE PART.

ANY REPLACEMENT PART THAT IS EQUIVALENT IN PERFORMANCE AND DURABILITY MAY BE USED IN NON-WARRANTY MAINTENANCE OR REPAIRS, AND

SHALL NOT REDUCE THE WARRANTY OBLIGATION OF THE COMPANY.

THE COMPANY IS LIABLE FOR DAMAGES TO OTHER ENGINE COMPONENTS CAUSED BY THE FAILURE OF A WARRANTED PART STILL UNDER WARRANTY.

**THE WARRANTY DOES NOT APPLY TO** THOSE UNITS WHICH HAVE BEEN DAMAGED BY NEGLIGENCE OF INSTRUCTION LISTED IN THE OWNER/OPERATOR MANUAL FOR PROPER USE AND MAINTENANCE OF THE UNITS ACCIDENT MISHANDLING, ALTERATION, ABUSE, IMPROPER LUBRICATION, USE OF ANY PARTS OR ACCESSORIES OTHER THAN THOSE SPECIFIED BY THE COMPANY, OR OTHER CAUSES BEYOND THE COMPANY'S CONTROL.

**THIS WARRANTY DOES NOT COVER** THOSE PARTS REPLACED BY NORMAL WEAR OR HARMLESS CHANGES IN THEIR APPEARANCE.

**THERE ARE NO OTHER EXPRESS WARRANTIES.**

**IMPLIED WARRANTIES** INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE **ARE LIMITED** TO TWO (2) YEARS OF HOME USE [ONE (1) YEAR FOR ANY OTHER USE] FROM THE ORIGINAL DELIVERY DATE.

**LIABILITIES FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE UNDER ANY AND ALL WARRANTIES ARE EXCLUDED.**

IF YOU NEED TO OBTAIN MORE INFORMATION, PLEASE CALL YOUR NEAREST SERVICE CENTER, OR CHECK PLEASE ZENOAH WEB SITE <http://www.zenoah.net>